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EXAMINER	
CHOW, LIXI	

ART UNIT	PAPER NUMBER
2627	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	**Application No.** 10/677,330	**Applicant(s)** YU ET AL.
	Examiner Lixi Chow	**Art Unit** 2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.
2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-8,10-16,18-20,22 and 23* is/are pending in the application.
  4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) *15,16,18-20 and 22* is/are allowed.
6)☒ Claim(s) *1,3-6,8,10-13 and 23* is/are rejected.
7)☒ Claim(s) *7 and 14* is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a)☒ All b)☐ Some * c)☐ None of:
    1.☒ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
  Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 23 does not include any instructions or steps to define the claimed method; hence, it is indefinite as to scope of claim coverage.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3-6, 8, 10-13 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Genheimer et al. (US 6,043,946; hereafter Genheimer) in view of Kaneshige et al. (US 2002/0034143; hereafter Kaneshige).

Regarding claims 1 and 4:

Genheimer discloses a method of preventing a malfunction of a disc drive, comprising:

a first monitoring operation determining whether an operative state of the disc drive is stable when a disc is loaded into the disc drive (see Figs. 1-2 and col. 5, lines 33-47);

determining if the operative state of the disc drive is stable (see col. 5, lines 38-47; when the alignment of the head relative to the corresponding disc surface can be achieved, it is determined that the operative state of the disc drive is stabled) ;

controlling a turning on of a correction function, if the operative state of the disc drive is determined to be stable (of course the system microprocessor 60 turns on the correction function unit ECC 90 when it determines that the disc drive is stabled); and

a second monitoring operation determining whether the operative state of the disc drive is stable after turning the correction function on (see Fig. 6, steps 110, 118 and 112; also see col. 13, lines 53-63);

determining if the operative state of the disc drive is unstable (see Fig. 6, step 110; when comparing the channel quality measurement to the predetermined threshold, the system can determine if the operative state of the disc drive is unstable based on the comparison result); and

controlling a turning off of the correction function, if the operative state of the disc drive is determined to be unstable from a second monitoring result (see Fig. 6, step 118).

Genheimer fails to disclose the correction function is for correcting a minimum pit length; however, Kaneshige discloses a method comprising an operation of a correction function for a minimum pit length, wherein the minimum pit length is 3T (see par. [0087]).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the correction function of Genheimer to correct the minimum pit length as suggested by Kaneshige. One of ordinary skill in the art would have been motivated to do this, because such correction method provides an inexpensive read channel arranged applicable to high channel frequencies (see Kaneshige, par. [0131]).

Regarding claim 3:

Genheimer discloses the method of claim 1, wherein the first monitoring and the second monitoring operations monitor overall functions of the disc drive (the first monitoring operation is performed by the servo control circuit 54, and the second monitoring operation is performed by the channel quality monitor unit 86).

Regarding claim 5:

Genhiemer discloses the method of preventing a malfunction of a disc drive according to claim 1, wherein the first monitoring operation comprises:

monitoring a synchronization signal supplied from a digital signal processing unit, monitoring an operation of a servo unit, and monitoring a signal supplied from a host computer (see Fig. 1; the servo system is continually monitored in order to accurately reproduce the signal).

Regarding claim 6:

Genheimer discloses the method of preventing a malfunction of a disc drive according to claim 2, wherein the second monitoring operation comprises:

monitoring a synchronization signal supplied from a digital signal processing unit, monitoring an operation of a servo unit, and monitoring a signal supplied from a host computer (see col. 13, lines 53-63; monitoring the PLL corresponds to monitoring the synchronization signal).

Regarding claims 8, 10-13 and 23:

Claims 8, 10-13 and 23 are essentially the same as claims 1 and 3-6; hence, claims 8, 10-13 and 23 are rejected under the same reasons set forth in claims 1 and 3-6.

Allowable Subject Matter

3. Claims 7 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In regards to claim 7, none of the reference of record alone or in combination disclose or suggest a method of preventing a malfunction of a disc drive according to claim 2, wherein the determining if the disc drive is unstable comprises: determining if a period of a synchronization signal supplied from a digital signal processing unit is not regular, **determining if after a servo unit is requested to turn on a focus lock operation or, constant linear velocity lock operation, a level of a response signal corresponding to the turn on operation of the focus lock or the CLV lock generated in the servo unit does not meet a specified standard**, and **determining if the level or the phase of the RF signal reproduced when the host computer requests the disc drive to perform "STOP" operation during a normal reproduction operation is generated abnormally**.

Claim 14 recites similar limitations as claim 7; hence claim 14 is being objected in a similar manner as above.

4. Claims 15, 16, 18-20 and 22 are allowed.

Independent claims 15 and 19 have been amended to include the subject matter that was indicated to be allowable.

Response to Arguments

5. Applicant's arguments filed 12/18/07 have been fully considered but they are not persuasive. Applicant argues that "steps 110, 112, and 118 of Figure 6 do not disclose the

second monitoring operation of claim 1 of the present application". However, Examiner respectfully disagrees. Genheimer clearly teaches continuously monitoring the operative state of the disc drive by monitoring the error rate. The continuous monitoring operation corresponds to the second monitoring operation as claimed. Although Genheimer does not teach the same type of correction function as the present application; however, Kaneshige shows a system that uses correction function for a minimum pit length, and the advantage of adopting such correction function (see explanation to claim 1 above).

Accordingly, claims 1, 3-6, 8, 10-13 and 23 are not patentable over Genheimer in view of Kaneshige.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lixi Chow whose telephone number is 571-272-7571. The examiner can normally be reached on Mon-Fri, 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LC 3/7/08

/Wayne R. Young/
Supervisory Patent Examiner, Art Unit 2627